

CARIDEAN SHRIMPS OF THE GULF OF CALIFORNIA.
V. NEW RECORDS OF SPECIES BELONGING TO
THE SUBFAMILY PONTONIINAE
(CRUSTACEA: DECAPODA: PALAEMONIDAE)

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Abstract.—Extensions in the known distribution of three species of pontoniine shrimps are presented. The first known male of *Neopontonides dentiger* has been collected in Bahía Kino, Sonora, some 800 km northwestward from its previously recorded range. Two other species of Panamic pontoniine shrimps are reported for the first time from the Gulf of California: *Periclimenaeus hancocki* and *P. spinosus* were found in two different sponges in Bahía Concepción, B.C.S. The male holotype is the only previous record of the latter species. Diagnoses and illustrations of all three species are provided.

Resumen.—Se incrementa el rango de distribución conocida de tres camarones pontoninos. Las especies panámicas *Periclimenaeus hancocki* y *P. spinosus* han sido colectadas por vez primera en el Golfo de California: en Bahía Concepción dentro de dos esponjas diferentes. De *P. spinosus* sólo se conocía el holotipo macho. En Bahía Kino, Sonora, fué hallado el primer macho conocido de *Neopontonides dentiger*; ésto significa un incremento de unos 800 km hacia el NW, en el área de su distribución conocida. Se incluyen diagnosis e ilustraciones de las tres especies mencionadas.

Because of their small size and typical associations, pontoniine shrimps are very likely to go unnoticed. Detailed examination of sponges collected in Bahía Concepción (25°40'N, 111°50'W) has provided several specimens of two species of *Periclimenaeus*. Another specimen available through the kindness of Prof. Marco Escalante, from the Escuela de Ciencias del Mar (University of Sinaloa at Mazatlán) has proved to be the first male specimen known of *Neopontonides dentiger*. All specimens are deposited in the reference collection of the Centro de Investigación Científica y Educación Superior de Ensenada (CICESE).

Neopontonides dentiger Holthuis, 1951
Fig. 1

Neopontonides dentiger Holthuis, 1951:193,
pl. 61; 1952:18.—Hendrickx, Wicksten,

and van der Heiden, 1983:70.—Wicksten, 1983:20.

Material examined.—One male (carapace length 1.6 mm), Bahía Kino, Sonora (28°45' N, 111°55'W), 4 m, macroalgae, coll. M. Escalante, 1983.

Previous records.—Cabo San Francisco (Ecuador); Mazatlán and Punta Piaxtla in Sinaloa (Mexico).

Diagnosis.—Carapace smooth, only antennal spines present. Rostrum laterally expanded in proximal portion and laterally compressed in distal part; 9 to 11 dorsal teeth, ventral margin unarmed. Basal segment of antennular peduncle armed with spine on anterolateral border. Stylocerite sharply pointed, reaching middle of basal segment. Scaphocerite well developed, with lateral spine overreached by lamella. Second and third maxillipeds without exopods,

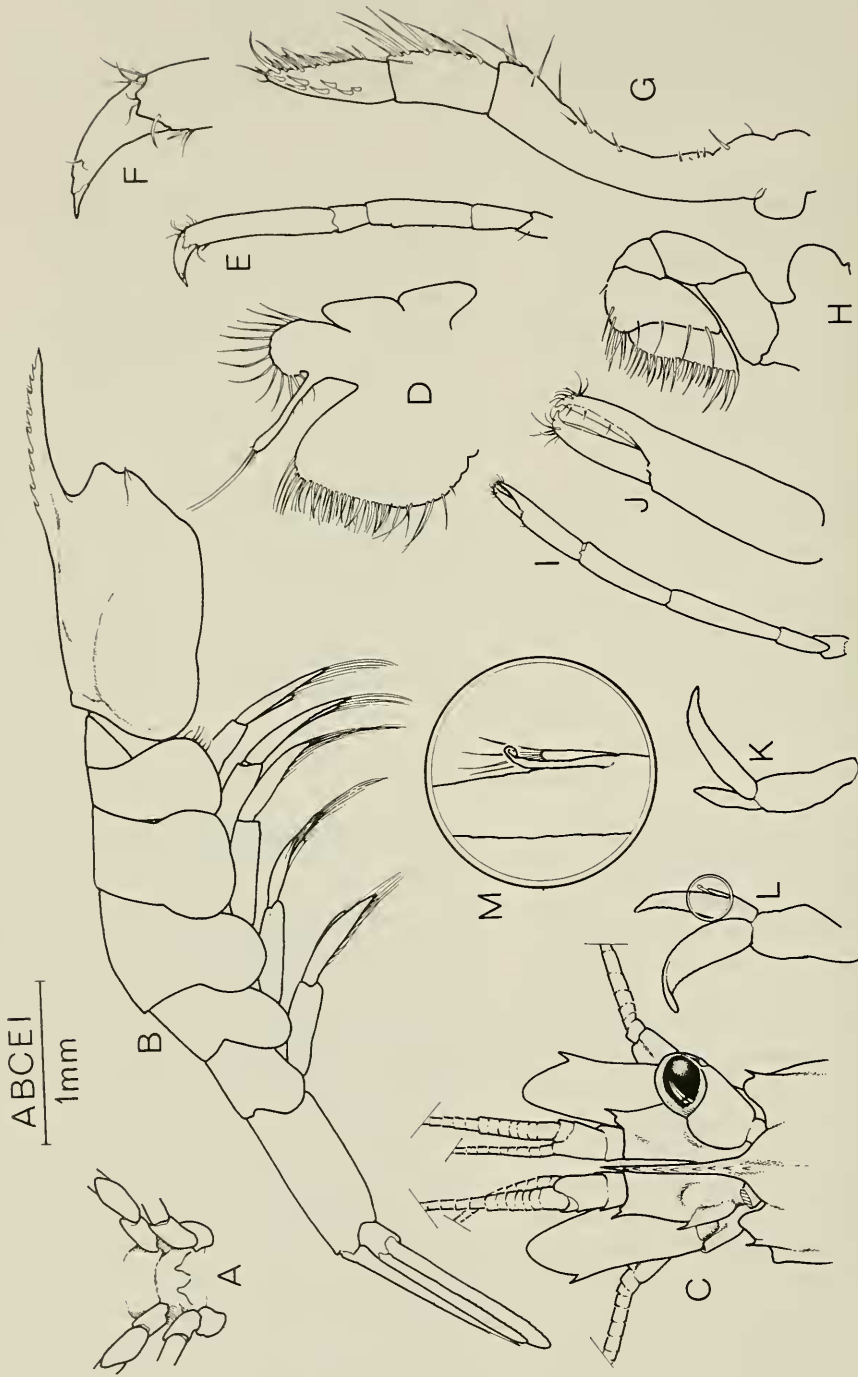


Fig. 1. *Neopontonides dentiger*, male: A, Base of first and second pereopods, ventral view; B, Carapace and abdomen, lateral view; C, Anterior region, dorsal view; D, First maxilliped; E, Third pereopod; F, Same, dactyl; G, Third maxilliped; H, Second maxilliped; I, First pereopod; J, Same, chela; K, First pleopod; L, Second pleopod; M, Same, detail of appendix interna and appendix masculina.

widely separated at base. Ventral two-pointed process between coxae of first and second pereopods. Third pereopod with dactylus simple, without basal protuberance. Second pleopod with appendix masculina reaching beyond middle of appendix interna and armed with 3 apical setae.

Remarks.—Holthuis (1951) described *N. dentiger* from a single incomplete ovigerous female. Apparently, the specimens examined by Wicksten (1983) are those reported in Hendrickx, Wicksten and van der Heiden (1983): an ovigerous female and an undetermined specimen. This is the first report of a male of the species, unfortunately lacking both second pereopods. The most conspicuous differences with the holotype description are the number of rostral teeth and the ventral mesial spiniform bifurcate process between pereopods I and II. *Neopontonides dentiger* was previously collected in mud and rocks (Holthuis 1951) and on sand-rock and muddy bottoms with gorgonians on stones (Hendrickx, Wicksten and van der Heiden 1983, Wicksten 1983). It is now recorded along with macroalgae. Proper host identity remains to be established.

Periclimenaeus hancocki Holthuis, 1951

Fig. 2

Periclimenaeus hancocki Holthuis, 1951:97, pl. 29.—Abele, 1975:70, Fig. 28; 1976:270—Wicksten, 1983:8.

Material examined.—One male (c.l. 2.9 mm), one female (c.l. 3.5 mm), one ovigerous female (c.l. 3.5 mm); Bahía Concepción, Baja California Sur, 2.3 m, sponge; coll. H. Licón, 10 May 1981.

Previous records.—Bahía Piñas, Pacific coast of Panama; Malpelo Island.

Diagnosis.—Carapace smooth, only antennal spines present. Rostrum laterally compressed, longer than eye, reaching beyond first antennular peduncle; 4 or 5 dorsal teeth, ventral margin entire. Scaphocerite shorter than antennular peduncle; anterolateral spine overreached by lamella. First

pereopods with fingers a little shorter than palm. Second pereopods unequal, larger with fingers almost half as long as palm; smaller with palm almost 3 times as long as fingers. Larger second pereopod with fingers obliquely inserted on palm. Posterior pereopods with dactylus strongly biunguiculate. Second pleopod of male with appendix masculina not reaching middle of appendix interna, armed with 2 apical and 2 subapical setae.

Remarks.—The holotype of this species came from soft mud (Holthuis 1951). Abele (1976) found it in what he called "*Pocillopora damicornis* habitat". Specimens from Bahía Concepción were taken from a non-calcareous sponge with acicular spicules. A male and a female were living together, which suggests that *P. hancocki* occurs in pairs as in other sponge associate species. Wicksten (1983) included *P. hancocki* in a list of four species that may occur in the Gulf of California because of its presence on the southwestern Mexican coast. Unfortunately I did not find any precise records from that region. Abele (1975) refers to the holotype as being a male, while Holthuis (1951) in the original description mentions a female as the only specimen examined. Dr. Raymond B. Manning of the Smithsonian Institution kindly examined that specimen and found that Prof. Holthuis was correct.

Periclimenaeus spinosus Holthuis, 1951

Fig. 3

Periclimenaeus spinosus Holthuis 1951:113, pl. 35.

Material examined.—One male (c.l. 1.8 mm), one ovigerous female (c.l. 2.3 mm), Bahía Concepción, B.C.S.; sponge, coll. H. Licón, 10 May 1981.

Previous records.—South Viradores Islands off Pacific coast of Costa Rica.

Diagnosis.—Carapace smooth with supraorbital and antennal spines. Rostrum laterally compressed and directed slightly

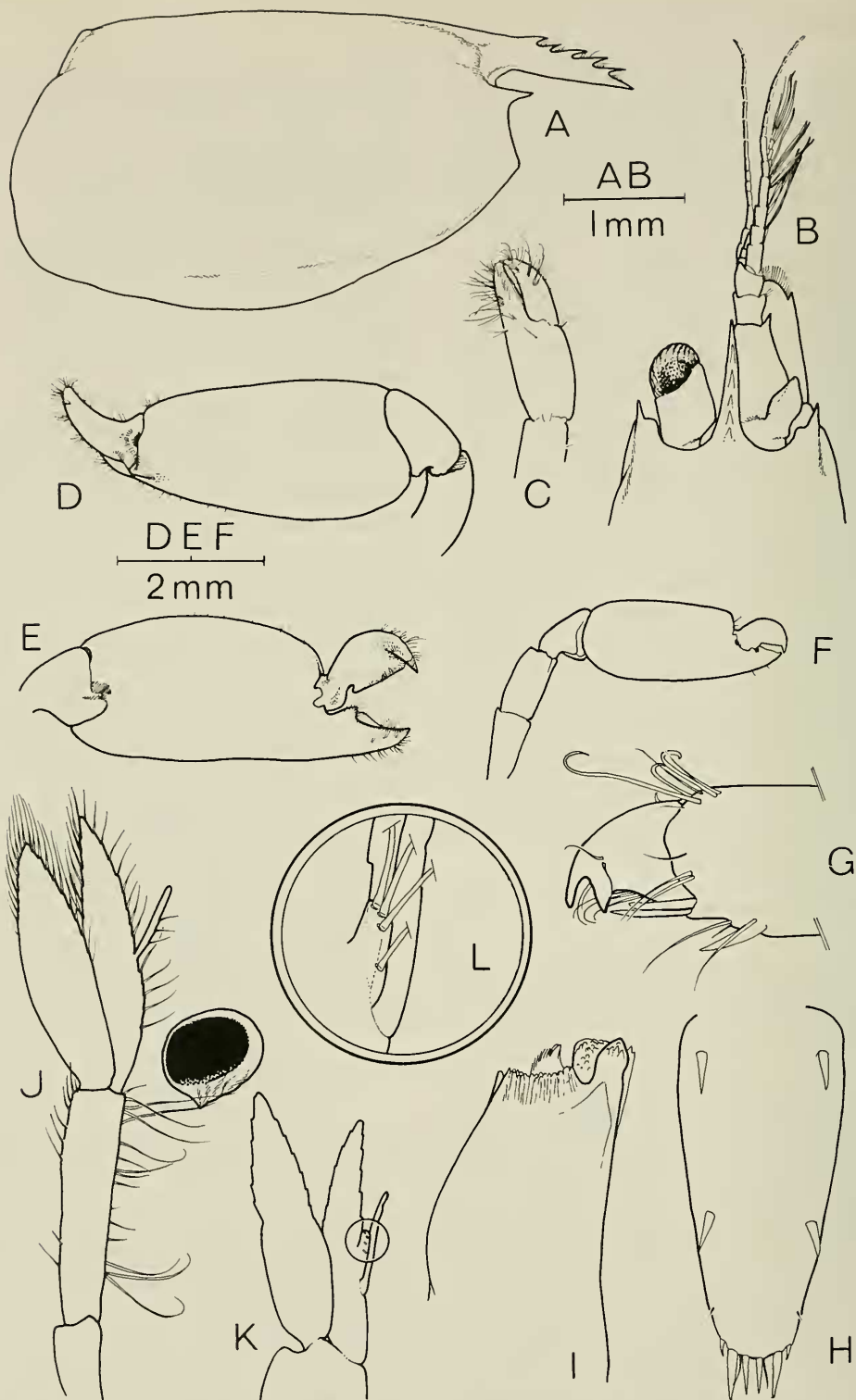


Fig. 2. *Periclimenaeus hancocki* A-J, ovigerous female: A, Carapace, lateral view; B, Anterior region, dorsal view; C, Chela of first pereiopod; D, Left second pereiopod, outer view; E, Same, inner aspect; F, Right second pereiopod, outer view; G, Dactyl of third pereiopod; H, Telson; I, Mandible; J, Second pleopod with egg attached. K-L, male: K, Second pleopod; L, Same, detail of appendix masculina.

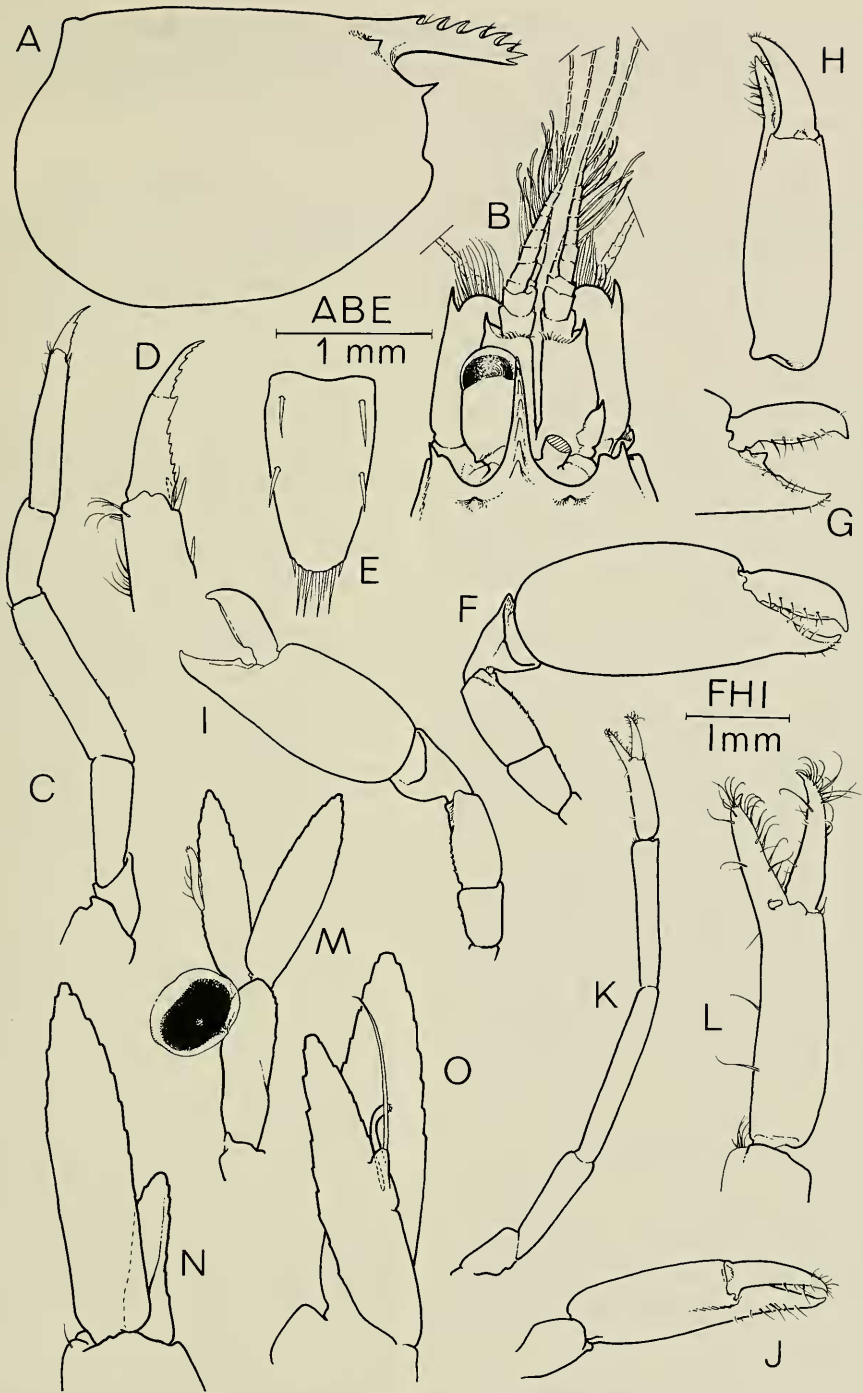


Fig. 3. *Periclimenaeus spinosus* A-M, ovigerous female: A, Carapace, lateral view; B, Anterior region, dorsal view; C, Fourth pereiopod; D, Same, finger; E, Telson; F, Right second pereiopod, outer aspect; G, Same, fingers; H, Same, dorsal view; I, Left second pereiopod, outer aspect; J, Same, dorsal view; K, First pereiopod; L, Same, chela; M, Second pleopod with egg attached. N-O, male: N, First pleopod; O, Second pleopod.

downwards, armed with 5 or 6 dorsal and one subterminal ventral teeth. Basal segment of antennular peduncle with a spine on anterolateral margin. Stylocerite sharp-pointed, reaching middle of basal segment. Scaphocerite well developed, with lateral spine overreaching lamella. First pereopods with slender chela and small round tooth on proximal margin of fixed finger. Second pereopods different in size but subequal in shape. Posterior legs with dactylus biunguiculated and accessory spinules on ventral margin. Accessory spinules also present on posterior margin of propodus and merus of third leg and propodus of fourth and fifth legs. Second pleopod of male with appendix masculina reaching beyond middle of appendix interna and furnished with single long apical seta.

Remarks.—*Periclimenaeus spinosus* was known only from the male holotype from Costa Rica. Specimens examined showed the following small differences with the description of the holotype: third maxilliped does not reach middle of scaphocerite; second pereopods with small spinules on posterior margin of merus and ischium; carpus of larger second pereopod is about one fourth as long as chela. *Periclimenaeus spinosus* has been collected with corals (Holthuis 1951). Both specimens from Bahía Concepción were drawn from conspicuous channels of a small sponge with a loosely reticular mesenchima.

Acknowledgments

Prof. Alberto Carvacho critically reviewed the manuscript. Mme. Clara Yáñez made the drawings. Dr. Raymond B. Manning from the Smithsonian Institution, checked the sexual identity of the holotype

of *Periclimenaeus hancocki* and kindly reviewed the final manuscript. Marco Escalante provided the specimen from Bahía Kino.

Literature Cited

- Abele, L. G. 1975. The macruran decapod Crustacea of Malpelo Island.—Smithsonian Contributions to Zoology 176:69–85.
- . 1976. Comparative species composition and relative abundance of decapod crustaceans in marine habitats of Panama.—*Marine Biology* 38:263–278.
- Hendrickx, M. E., M. K. Wicksten, and A. M. van der Heiden. 1983. Studies of the coastal marine fauna of southern Sinaloa, Mexico. IV. Report on the caridean crustaceans.—*Proceedings of the Biological Society of Washington* 96:67–78.
- Holthuis, L. B. 1951. A general revision of the Palaemonidae (Crustacea Decapoda Natantia) of the Americas. I. The subfamilies Euryrhynchinae and Pontiinae.—*Occasional Papers of the Allan Hancock Foundation* 11:1–332.
- . 1952. The Palaemonidae collected by the *Siboga* and *Snellius* expeditions, with remarks on other species. II. Subfamily Pontiinae.—*Siboga Expeditie* 39a¹⁰:1–253.
- Wicksten, M. K. 1983. A monograph on the shallow water caridean shrimps of the Gulf of California, Mexico.—*Allan Hancock Monographs in Marine Biology* 13:1–59.

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Note added in proof:

Another record of *Neopontonides dentiger* has recently appeared: Heard, R. W. 1986. Pontiine shrimps (Decapoda: Caridea: Palaemonidae) of the northwest Atlantic. I. The genus *Neopontonides* Holthuis, 1951, with the description of *N. chacei*, new species, and the erection of *Pseudopontonides*, new genus, to receive *N. principis* Criales, 1980.—*Journal of Crustacean Biology* 6:471–484.